

1. Method for welding an overlapping article of sheet metal on a welding apparatus with welding electrode rollers and if required with additional intermediate wire electrodes, characterized in that the welding current is not applied to the electrodes until the article to be welded is between the electrodes.

5 2. Method according to Claim 1, characterized in that the moment of switching on the welding current is derived from the forward or rear edge, in the welding direction, of the article to be welded.

3. Method according to Claim 2, characterized in that the moment of switching on is derived from the forward edge by detecting the deflection of at least one of the welding electrode rollers upon insertion of the article between the welding electrode rollers.

10 4. Method according to Claim 3, characterized in that the welding current is applied to the welding electrode rollers at the next passage through zero of the said current following a predetermined, adjustable deflection of the said rollers.

15 5. Method according to Claim 1, characterized in that the rated welding current value (B) for the overlapping weld seam is impressed at the welding electrode rollers and/or intermediate wire electrodes at the moment of switching on.

20 6. Method according to Claim 1, characterized in that a rated welding current value (A) lower than the rated welded current value (B) for the overlapping weld seam is impressed at the welding electrode rollers and/or intermediate wire electrodes at the moment of switching on and the rated current value (B) is impressed after a predetermined time.

7. Method according to Claim 1, characterized in that the welding current is applied to the welding electrode rollers and/or intermediate wire electrodes as a steady alternating current at the moment of switching on and is applied thereto as alternating current interrupted by pauses after a predetermined time.

5 8. Method according to Claim 1, characterized in that the articles to be welded are can bodies.

9. Method according to Claim 1, characterized in that the article to be welded has a single or double overlap.

10. Method according to Claim 1, characterized in that the single sheet thickness of the articles to be welded is 0.4 mm to 1.25 mm, and in that the articles to be welded comprise in particular coated sheets.

11. A welding apparatus with welding electrode rollers and if required with additional intermediate wire electrodes, with a welding current source, in particular an AC welding current source, that can be connected to the electrodes by a controllable switch arrangement, and with a control device for the switch arrangement, characterized in that a means connected to the control device is provided which is triggered by the position with respect to the welding electrode rollers of the forward or rear edge, viewed in the welding direction, of an article to be welded, and in that the control device is configured to receive from the means a signal indicating the position of the edge of the article to be welded with respect to the electrode rollers and in dependence thereon to deliver to the switch arrangement a signal releasing the welding current to the electrode rollers and/or the intermediate wire electrodes.

12. A welding apparatus according to Claim 11, characterized in that the means is configured to detect the deflection or at least one of the welding electrode rollers by the article passing between the electrodes.

13. Welding apparatus according to Claim 11, characterized in that the means for detecting the deflection comprises a setting arrangement by means of which the response to the position of the leading edge of the article to be welded is adaptable to the thickness of the sheet metal.

14. Welding apparatus according to Claim 13, characterized in that the setting arrangement has a disk with a plurality of regions of different thickness in a predetermined proportion to the thickness of the sheet material of the articles to be welded.

15. Welding apparatus according to Claim 14, characterized in that the disk is rotatably arranged, and the regions are recesses of different depth in the disk which are preferably each marked with the corresponding thickness of the sheet material of the article to be welded.

16. A method for welding a sheet metal article along an overlapping seam, comprising the steps of:

providing a welding apparatus having electrode rollers, wherein the welding apparatus selectively provides welding current to the electrode rollers;

inserting the sheet metal article between the rollers prior to welding current being provided to the electrode rollers;

determining the presence of the sheet metal article between the electrode rollers; and

providing welding current to electrode rollers if it is determined the sheet metal article is between the welding electrodes, thereby welding the sheet metal article.

17. The method of claim 16, wherein the step of determining the presence of the sheet metal article between the electrode rollers includes determining the position of one or both of a leading edge or a trailing edge of the article to be welded;

wherein the welding current is provided to the electrode rollers when it is determined that the leading edge of the article is positioned between the welding electrodes.

18. The method of claim 17, wherein the step of determining the presence of the sheet metal article between the electrode rollers includes sensing the movement of one of the electrode rollers, wherein when one of the rollers is moved a predetermined distance, the welding current is provided to the electrode rollers.

19. An apparatus for welding sheet metal articles, comprising:

at least two electrode rollers;

a welding current source;

a controllable switch arrangement for selectively providing welding current from the welding current source to the at least two electrodes; and

a switch means for signaling the presence of one of the sheet metal articles between the electrode rollers, wherein the switch means has a first signal output when one of the sheet metal articles is disposed between the electrode rollers, and a second signal output when none of the sheet metal articles are disposed between the electrodes;

wherein the switch means changes from the second signal output to the first signal output when an edge of the sheet metal article is disposed between the electrode rollers.

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